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|-----------------|-------------|----------------------|---------------------|------------------|
| 09/995,665      | 11/29/2001  | Su-Woong Lee         | 8733.538.00         | 2645             |

7590- 07/11/2003  
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Suite 600  
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Washington, DC 20004

EXAMINER

NGUYEN, JOSEPH H

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

09/995,665

Applicant(s)

LEE, SU-WOONG

Examiner

Joseph Nguyen

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over figure 3 of the acknowledged prior art (APA) in view of JP 5-249422.

Regarding claim 1, (APA) discloses on figure 3 a seal pattern of a liquid crystal display device comprising a substrate 10 having a plurality of unit cell regions; a plurality of main seal patterns 21 on the substrate, each main seal pattern being formed at a boundary of a corresponding unit cell region; and a first sub seal pattern 31 surrounding all of the main seal patterns and having a plurality of open portions. (APA) does not disclose each main seal pattern being formed at a boundary of a corresponding unit cell region except for one unit cell region. However, JP5-249422 discloses on figure 2 each main seal pattern 13 being formed at a boundary of a corresponding unit cell region except for one unit cell region 13a. In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify (APA) by having each main seal pattern being formed at a boundary of a corresponding unit cell region except for one unit cell region for the purpose of reducing the thickness of the substrate at a good yield as taught by JP5-249422.

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Regarding claims 2-16, (APA) and JP5-249422 together disclose all the structures and steps of the method set forth in the claimed invention.

Regarding claim 17, (APA) discloses on figure 3 a seal pattern of a liquid crystal display device comprising a glass substrate 10 having a plurality of unit cell regions; a plurality of main seal patterns 21 on the substrate, each main seal pattern being formed at a boundary of a corresponding one of the unit cell regions; plurality of injection holes 22 each formed at a lower center portion of a corresponding main seal pattern; a first sub seal pattern 31 surrounding all of the main seal patterns and having a plurality of air vent portions; a plurality of additional seal patterns 33 for air ventilation each formed at a corresponding air vent portion; and a second sub seal pattern 33 having a plurality of open portions. (APA) does not disclose each main seal pattern being formed at a boundary of a corresponding unit cell region except for at least one middle unit cell region. However, JP5-249422 discloses on figure 2 each main seal pattern 13 being formed at a boundary of a corresponding unit cell region except for at least one middle unit cell region 13a. In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify (APA) by having each main seal pattern being formed at a boundary of a corresponding unit cell region except for at least one middle unit cell region for the purpose of reducing the thickness of the substrate at a good yield as taught by JP5-249422.

Note that applicant admitted on page 6 of the instant application that the sub-seal patterns 31, 32, 33 also function as air vent. Therefore, these patterns are also considered air vents.

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Regarding claims 17-18, 21-22, (APA) and JP5-249422 together disclose all the structures and steps of the method set forth in the claimed invention.

Regarding claim 19, (APA) and JP5-249422 together disclose substantially all the structures set forth in the claimed invention except the width of the plurality of seal patterns for air ventilation being about 1.5 to 2 mm. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify (APA) and JP5-249422 by having the width of the plurality of seal patterns for air ventilation being about 1.5 to 2 mm for the purpose of improving the performance of a liquid crystal display device, since it has been held that where the general conditions of a claim are disclosed in the prior art discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claim 20, (APA) and JP5-249422 together disclose substantially all the structures set forth in the claimed invention except the length of the plurality of seal patterns for air ventilation being about 70 to 100 mm. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify (APA) and JP5-249422 by having the length of the plurality of seal patterns for air ventilation being about 70 to 100 mm for the purpose of improving the performance of a liquid crystal display device, since it has been held that where the general conditions of a claim are disclosed in the prior art discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6392354 B1 to Matsueda discloses a driving circuit of an electro optical device.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (703) 308-1269. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-7382 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN  
June 23, 2003

**JEROME JACKSON  
PRIMARY EXAMINER**

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